 CALIFORNIA AIR RESOURCES BOARD	PERKINS ENGINES COMPANY LIMITED	EXECUTIVE ORDER U-R-022-0255 New Off-Road Compression-Ignition Engines
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Pursuant to the authority vested in California Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-19-095;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2020	LPKXL2.22TD7	2.22, 1.66	Diesel	5000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Electronic Direct Injection, Turbocharger, Oxidation Catalyst, Engine Control Module, Exhaust Gas Recirculation			Tractor, Material Handling Equipment, Access Platform Equipment	

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
19 ≤ KW < 37	Tier 4 Final	STD	N/A	N/A	4.7	5.5	0.03	N/A	N/A	N/A
		FEL	N/A	N/A	--	--	0.05	--	--	--
		CERT	--	--	4.5	1.3	0.03	--	--	--

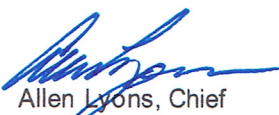
BE IT FURTHER RESOLVED: That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at ~~El Monte, California~~ on this 11TH day of May 2020.



Allen Lyons, Chief
Emissions Certification and Compliance Division

Engine Model Summary Template

EO#: U-R-022-0255

Attachment page 1 of 1

Date: 06/09/2020

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Displacement (l) /Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
LPKXL2.22TD7	404F-E22T**	EQ49DI/2800ABT	48.9@2800	33.7	2.22/20.8	165@1800	38.5	15.3	DDI, ECM, TC, EGR, DOC
LPKXL2.22TD7	C2.2**	EQ49DI/2800ABT	48.9@2800	33.7	2.22/20.8	165@1800	38.5	15.3	DDI, ECM, TC, EGR, DOC
LPKXL2.22TD7	403F-E17T*	EW40DI/2800ABT	38.9 @ 2800	35.7	1.66/16.5	120@ 1800	37.6	11.2	DDI, ECM, TC, EGR, DOC
LPKXL2.22TD7	C1.7*	EW40DI/2800ABT	38.9 @ 2800	35.7	1.66/16.5	120@ 1800	37.6	11.2	DDI, ECM, TC, EGR, DOC
LPKXL2.22TD7	404F-E22T**	6743/2600	48.3@2600	33.4	2.22/19.1	155.4@1600	35.0	12.3	DDI, ECM, TC, EGR, DOC
LPKXL2.22TD7	C2.2**	6743/2600	48.3@2600	33.4	2.22/19.1	155.4@1600	35.0	12.3	DDI, ECM, TC, EGR, DOC
LPKXL2.22TD7	403F-E17T*	6748/2600	40.2@2600	37.7	1.66/16.2	116@1600	37.4	9.9	DDI, ECM, TC, EGR, DOC
LPKXL2.22TD7	403F-E17T*	6752/2600	36.2@2600	35	1.66/15.0	116@1600	37.4	9.9	DDI, ECM, TC, EGR, DOC

** = 2.22 disp.

* = 1.66 disp.

New child rating added.